

**ABSTRACT OF THE DISCLOSURE**

A method for ligand-based binding of lipid encapsulated particles to molecular epitopes on a surface in vivo or in vitro comprises sequentially administering (a) a site specific ligand activated with a biotin activating agent; (b) an avidin activating agent; and (c) lipid encapsulated particles activated with a biotin activating agent, whereby the ligand is conjugated to the particles through an avidin-biotin interaction and the resulting conjugate is bound to the molecular epitopes on such surface. The conjugate is effective for imaging by x-ray, ultrasound, magnetic resonance or positron emission tomography. Compositions for use in ultrasonic imaging of natural or synthetic surfaces and for enhancing the acoustic reflectivity thereof are also disclosed.